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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

However, the Examiner reviewed Applicant's Remarks, which have been found not persuasive.

Applicant argues that Mohebbi (US Patent No. 7236788) "fails to disclose or suggest the control apparatus that includes the management table that stores information related to a relay station (of the plurality of relay stations) that can be communicatively connected to a respective base station" Also, applicant stated that "Mohebbi merely teaches that each base station (BTS) stores a list of active cells and their parameters and transmits the list to a mobile device. Specifically, Mohabbi teaches that the stored list includes call setup parameters for specific cells (.see col. 12, lines 19-28, 32 and 33)".

In response examiner respectfully disagrees with applicant's argument. Examiner has given the claims their broadest reasonable interpretation. See also MPEP §2111.

Mohebbi teaches or disclose the control apparatus (Base station with a base station controller (BSC)) that includes the management table (Memory or storage portion, col. 12, lines 25-29) that stores information (message or data or cell parameters or id) related to a relay station(active cell or BTS, functioning to relay or transmit or send

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information to other apparatus) of the plurality of relay stations (list of active cells) that can be communicatively connected to a respective base (fig. 1, fig. 12, col. 12, and respective portions of the specification).

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen et al (US Publication No. 20050141593) in view of Mohebbi (US Patent No. 7236788).

As to **claims 2, 10, and 13**, Pasanen teaches a wireless network control system comprising: a plurality of base stations that detect and communicate with a mobile terminal (pg. 2, pp0012, lines 1-3); a plurality of relay stations, each relay station being associated with a respective base station of the plurality of base stations, and each relay station relaying a communication between the respective base station and the mobile terminal (pg. 2, pp0012, lines 3-10); and a wireless network control apparatus that controls communication between the plurality of base stations and the mobile terminal (fig. 1): wherein the wireless network control apparatus comprises a relay

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station of the plurality of relay stations, that can be communicatively connected to the respective base station (pg. 3, pp0027, lines 10-15); a search section that, when more than one base station of the plurality of the base stations detect the mobile terminal, searches for a base station, from the base stations that detected the mobile terminal, that can be communicatively connected to respective relay stations associated with the base stations that detected the mobile terminal (pg. 3, pp0027, lines 8-11), and a control section that allows the communication connection to be established between the base station identified by the search and the respective relay stations associated with the base stations that detected the mobile terminal and that can be communicatively connected to the base station identified by the search (pg. 3, pp0032, lines 11-15, and pg. 3, pp0027, lines 10-15), wherein the base station identified by the search comprises a combining section that performs diversity combining by combining radio signals received from the mobile terminal received through the respective relay stations (pg. 3, pp0027, lines 21-26), and wherein, when more than one base station of the plurality of base stations detect the mobile terminal in an accommodation area (pg. 3, pp0027, lines 8-11), the base station identified by the search (detected) (i) establishes the communication connection to a relay station associated with another base station that detected the mobile station (pg. 3, pp0027, lines 1-10), and (ii) subsequently performs the diversity combining by combining the radio signals received from the mobile terminal through the relay station associated with the base station identified by the search (pg. 3, pp0027, lines 1-7) and radio signals received from the mobile terminal through the relay station associated with the another base station (pg.

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3, pp0027, lines 16-26). However, Pasanen fails to teach a management table that stores information, the stored information related to the relay station being stored in relation to the respective base station; the search section performing the search based on the management table.

But, Mohebbi teaches a management table that stores information (Memory or storage portion, col. 12, lines 25-29), the stored information related to the relay station (data or cell parameters or id) being stored in relation to the respective base station (fig. 1, fig. 12, col. 12); the search section performing the search (detecting) based on the management table (col.12, lines 20-29). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen system with the management table teachings of Mohebbi to achieve the goal of efficiently controlling multiple access points in a given communication system.

As to **claim 3**, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. However, Pasanen fails to teach wherein when the mobile terminal is detected based on information indicating a radio field intensity received from the mobile terminal, the search section searches for a base station that can be communicatively connected to relay stations that have relayed the information indicating the radio field intensity. Mohebbi teaches a mobile station selecting signal based on the signal strength (col. 1, lines 58-62). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen with the teachings of Mohebbi to achieve the goal of efficiently determining a mobile station in a communication region of a wireless communication system.

As to **claim 4**, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. However, Pasanen fails to teach wherein the control section of the wireless network control apparatus disconnects a communicative connection between a base station other than the base station identified by searchsearched and the relay station associated therewith. Mohebbi teaches disconnecting the first base station (BTS-A) when (BTS-B) is connected as the serving base station (col. 7, lines 8-17). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen with the teachings of Mohebbi to achieve the goal of efficiently consuming power in the base station not currently in communication with the mobile station.

As to **claim 5**, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. Pasanen further teaches wherein each base station comprises relay-station-information transmission section that transmits information, to the wireless network control apparatus indicating relay stations to which the respective base station can be communicatively connected (pg. 3, pp0033, lines 9-13). However, Pasanen fails to teach the wireless network control apparatus comprises management-table update means that updates the management table based on information transmitted from the relay-station-information transmission section of each base station. Mohebbi teaches a management table (fig. 8, #284) which stores the update (active list) information of base station (col. 12, lines 23-29) transmitted from the relay-station-information transmission (downlink signaling) section of each base station (col. 12, lines 22-26). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to

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combine the teachings of Pasanen system with the management table teachings of Mohebbi to achieve the goal of efficiently controlling and refreshing the information of multiple access points in a given communication system.

Claims 6-9, 11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen et al (US Publication No. 20050141593) in view of Jiang et al (US Patent No. 6519457) and Mohebbi (US Patent No. 7236788).

As to claims 6, 7, 8, and 9, Pasanen teaches a wireless network control system comprising a plurality of base stations that detect and communicate with a mobile terminal (pg. 2, pp0012, lines 1-3); and a plurality of relay stations, each relay station being associated with a respective base station of the plurality of base stations, and each relay station relaying a communication between the respective base station and the mobile terminal (pg. 2, pp0012, lines 3-10); a combining section that performs a diversity combining by combining radio signals received from the mobile terminal through the respective relay stations (pg. 3, pp0027, lines 21-26): wherein, when more than one base station of the plurality of base stations detect the mobile terminal in an accommodation area (pg. 3, pp0027, lines 8-11), the base station identified by the search (detected) (i) establishes the communication connection to a relay station associated with another base station that detected the mobile station (pg. 3, pp0027, lines 1-10), and (ii) subsequently performs the diversity combining by combining the radio signals received from the mobile terminal through the relay station associated with

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the base station identified by the search (pg. 3, pp0027, lines 1-7) and radio signals received from the mobile terminal through the relay station associated with the another base station (pg. 3, pp0027, lines 16-26). However, Pasanen fails to teach wherein each respective base station comprises: an inter-base station communication section for communicating with another base station; a management table that stores information related to a relay station of the plurality of relay stations, that can be communicatively connected to the respective base station; a determination section that, when the mobile terminal is detected by the respective base station, determines whether or not the another base station that is in communication with the mobile terminal exists, the determination being based on information obtained from the another base station by communication using the inter-base station communication section; a search section that, when the another base station that is in communication with the mobile terminal detected by the respective base station is determined to exist, searches for a base station, from the base stations that detected the mobile terminal, that can be communicatively connected to the relay station associated with the respective base station and a relay station associated with the another base station that communicates with the mobile terminal, the search section performing the search based on the management table; a control section that communicates a control signal through the inter-base station communication section such that the communication connection is established between the base station identified by the search, and the respective relay stations that can be communicatively connected to the base station identified by the search.

But, Jiang teaches an inter-base station communication section for communicating with another base station (fig. 3, #160,); a relay station of the plurality of relay stations (fig. 3, #136), that can be communicatively connected to the respective (source) base station (col. 4, lines 51-53); a determination section (fig. 3, #122) that, when the mobile terminal is detected by the respective base station, determines whether or not the another base station that is in communication with the mobile terminal exists (col. 8, line 15-20), the determination being based on information obtained from the another base station (target base station) by communication using the inter-base station communication section (col. 9, lines 5-15); a search section that, when the another base station that is in communication with the mobile terminal detected by the respective base station is determined to exist, searches for a base station, from the base stations that detected the mobile terminal, that can be communicatively connected to the relay station associated with the respective base (fig. 3, #136) station and a relay station associated with the another base station (fig. 3, #162) that communicates with the mobile terminal (col. 7, lines 45-50), a control section (fig. 3, #130) that communicates a control signal through the inter-base station communication section such that the communication connection is established between the base station identified by the search, and the respective relay stations that can be communicatively connected to the base station identified by the search (col. 4, lines 45-55). However, Pasanen and Jiang fails to teach a management table that stores information related to a relay station of the plurality of relay stations, that can be

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communicatively connected to the respective base station; and the search section performing the search based on the management table.

But, Mohebbi teaches a management table that stores information (Memory or storage portion, col. 12, lines 25-29), the stored information related to the relay station (data or cell parameters or id) being stored in relation to the respective base station (fig. 1, fig. 12, col. 12); the search section performing the search (detecting) based on the management table (col.12, lines 20-29). Thus, it would have been obvious to one of ordinary skill in the art at time of invention was made to combine the teachings of Pasanen with Jiang and Mohebbi to achieve a communication system with direct link between the base stations which will reduce the transmission time to avoid dropping calls. Also, such a system would reduce the work load on the communication control system.

As **to claim 11**, the base station limitations of claim 11 are inherent in the system of Pasanen in view of Jiang and Mohebbi as discussed in claim 6 above.

As **to claim 14**, the method limitations of claim 14 are inherent in the system of Pasanen in view of Jiang and Mohebbi as discussed in claim 6 above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./
Examiner, Art Unit 2617

/VINCENT P. HARPER/
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